

What is claimed is:

CONFIDENTIAL

- 1 1. A system for testing a DUT having a plurality of probe pads, comprising:
 - 2 a. a forcing probe for contacting and applying a first electrical signal to a first
 - 3 one of the plurality of probe pads;
 - 4 b. a sensing probe for contacting said first one of the plurality of probe pads and
 - 5 sensing a second electrical signal at said first one of said plurality of probe
 - 6 pads; and
 - 7 c. a variable power supply in electrical communication with said forcing probe
 - 8 and said sensing probe, said variable power supply capable of adjusting said
 - 9 first electrical signal based upon said second electrical signal.
- 1 2. A system according to claim 1, further comprising a plurality of forcing probes and
- 2 a plurality of variable power supplies, each of said forcing probes being in electrical
- 3 communication with a corresponding one of said plurality of power supplies.
- 1 3. A system according to claim 1, a voltmeter electrically connected between said
- 2 sensing probe and said variable power supply, said voltmeter for measuring said
- 3 second electrical signal.
- 1 4. A system according to claim 1, further comprising a probe card, said probe card
- 2 supporting said forcing probe and said sensing probe.
- 1 5. A system according to claim 1, further comprising first and second sensing electrodes
- 2 and a sensing instrument, said first sensing electrode in electrical communication
- 3 with said variable power supply, said second sensing electrode in electrical
- 4 communication with said sensing instrument.

1 6. A system according to claim 5, wherein said sensing instrument is a current meter.

1 7. A system according to claim 1, further comprising a plurality of forcing probes, a
2 plurality of variable power supplies and a switching matrix, said plurality of forcing
3 probes being selectively connectable to said plurality of variable power supplies via
4 said switching matrix.

1 8. A system according to claim 1, further comprising a feedback controller electrically
2 connected between said sensing probe and said variable power supply.

1 9. A method of testing a DUT having a plurality of probe pads, comprising the steps of:
2 a. providing a first electrical signal to one of the plurality of probe pads;
3 b. sensing a second electrical signal at said one of the plurality of probe pads;
4 and
5 c. adjusting said first electrical signal based upon said second electrical signal.

1 10. A method according to claim 9, further comprising the step of measuring a third
2 electrical signal at a second one of the plurality of probe pads.

1 11. A method according to claim 9, wherein
2 a. a plurality of first electrical signals are provided to a number of the plurality
3 of probe pads;
4 b. a plurality of second electrical signals are sensed at said number of the
5 plurality of the probe pads; and
6 c. each of the first electrical signals is adjusted based upon said plurality of
7 second electrical signals.

097547333123300

- 1 12. A method according to claim 11, wherein said plurality of first electrical signals is
2 provided via a plurality of forcing probes and a plurality of power supplies each in
3 electrical communication with a corresponding one of said plurality of forcing
4 probes.
- 1 13. A method according to claim 12, further comprising the step of selectively coupling
2 said forcing probes to said power supplies via a switching matrix.
- 1 14. A method according to claim 12, wherein each of said power supplies includes a
2 feedback controller for adjusting a corresponding one of said plurality of first
3 electrical signals based upon a corresponding one of said plurality of second
4 electrical signals.
- 1 15. A method according to claim 9, wherein said first electrical signal is provided via a
2 forcing probe and a power supply in electrical communication with said forcing
3 probe.
- 1 16. A method according to claim 15, wherein said power supply includes a feedback
2 controller for adjusting said first electrical signal based upon said second electrical
3 signal.
- 1 17. A method according to claim 9, further comprising the step of providing a feedback
2 signal in proportion to said second electrical signal for adjusting said first electrical
3 signal.